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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/440,093	11/15/1999	KAZUTOSHI YASUNAGA	P18663.P01	2522

7055 7590 09/25/2003

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RESTON, VA 20191

EXAMINER

OPSASNICK, MICHAEL N

ART UNIT PAPER NUMBER

2655

DATE MAILED: 09/25/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/440,093

Applicant(s)

YASUNAGA ET AL.

Examiner

Michael N. Opsasnick

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-7. 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa (5826226) in view of Tzeng (5293449).

As per claims 2-5,10-25, Ozawa (5826226) teaches a method and system of providing an excitation vector used in the production of synthesized speech (as speech coding apparatus, col. 1 lines 7-11) comprising:

“at least one input vector, each comprising a plurality of pulses, each of said pulses having a position and a polarity” as excitation quantization circuit provides a plurality of pulses (abstract, col. 2 lines 29-40) having certain positions (col. 2 lines 55-60); and polarity (col. 12 lines 47-51);

“at least first sets of at least on fixed waveforms” as codebook storage storing information for synthesis (col. 11 lines 1-30);

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“ an arrangement system wherein.....in a first position, an output of said excitation vector generator results from a convolution of said first set of at least one fixed waveform in accordance with the polarity and the position of said plurality of pulses of said at least one input vector, as convoluted by said convolution system” as convolution calculation (col. 7 lines 4-22) utilizing the codebook (col. 7 lines 22-30), according to polarity and pulse position (col. 2 lines 55-60); (col. 12 lines 47-51).

Ozawa also teaches an adder that adds the waveforms in a feedback process (fig. 2, subblock 235)

Ozawa (5826226) does not explicitly teach the claimed limitations of:

“ a switch moveable to a plurality of positions, each position being responsive to one of a plurality of conditions”, and “when said switch is in a second position, an output of said excitation vector generator is based at least partially upon said second set of at least one fixed waveform”, “an adder that adds said plurality of arrange waveforms” (Ozawa (5826226) teaches a single structure codebook, however, only one set of fixed waveforms), however, Tzeng (5293449) teaches a reference codebook structure that can switch (Fig.4, subblock 406) between an unvoiced codebook (Fig. 4, subblock 410) and voiced codebook (Fig. 4, subblock 408), and an excitation vector output from either codebook based upon the type of speech determined from a V/UV decision (col. 4 lines 45-63); and a summation (Fig. 8, subblocks 880). Therefore, it would have been obvious to one of ordinary skill in the art of speech coding/synthesis to modify the teachings of Ozawa (5826226) with a split codebook/codevector structure (as taught by Tzeng) because adapting a V/UV codebook structure/synthesis would provide a more efficient coding process and a improved speech quality (col. 3 lines 15-23).

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As per claims 6-9, the recited claim elements in common with claims 2-5,10-15 are rejected under the same rationale as presented above. Furthermore, Ozawa (5826226) teaches a shifting system capable of shifting said fixed waveforms in accordance with the position and the polarity of the pulse of the input vector (abstract, col. 7 lines 1-18, col. 8 lines 40-55).

### ***Response to Arguments***

3. Applicant's arguments filed July 10, 2003 have been fully considered but they are not persuasive. As per the arguments regarding Ozawa's convolution calculation being different from applicant's invention, examiner argues that the features upon which applicant relies (i.e., the actual convolution calculation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As per applicant's arguments that Tzeng does not teach storing fixed waveforms, examiner argues that Tzeng teaches storage of the residuals (col. 10 lines 44-51). Furthermore, it is well known in the art of CELP designs to contain a fixed codebook (or prestored waveforms -- see related art listed below -- Abe et al, 5581652, abstract; Cuperman et al, 4963034, col. 1 lines 35-47; Swaminathan et al, 5751903, col. 1 lines 29-39).

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**Conclusion**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see related art listed on the PTO-892 form.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

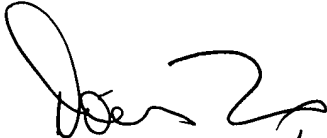
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

mno  
9/21/03

  
DORIS H. TO 9/22/03  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800